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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,404	07/25/2003	Richard Lee Kendrick	040092-019710US	2813

31824 7590 09/22/2005

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EXAMINER

CONNOLLY, PATRICK J

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/627,404	Applicant(s) KENDRICK ET AL.	
	Examiner Patrick J. Connolly	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11.10.2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

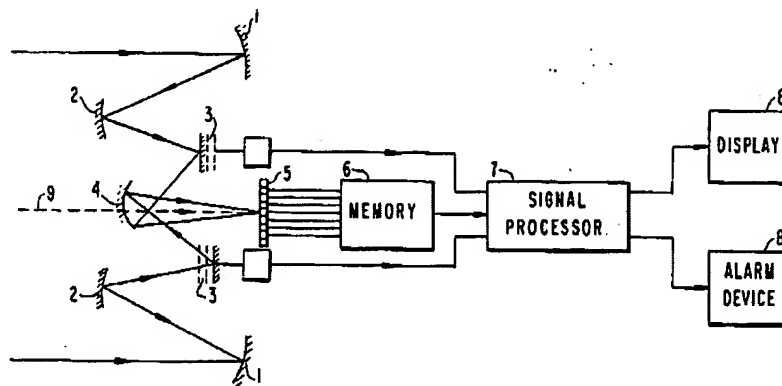
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-31 rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 4,136,954 to Jamieson.

As to claims 1-31, Jamieson discloses an imaging apparatus including spatial-spectral interferometer including (see Figure 1 below):



a first collection device that includes an adjustable-optical path and configured to collect a first portion of a wavefront (1, 2, 3, top portion)

a second collection device configured to collect a second portion of the wavefront (1, 2, 3, bottom portion);

combiner optics configured to interfere the first and second portions of the wavefront at an image plane of the first and second collector devices to form interference patterns at the image plane (4); and

a Fourier transformation module configured to derive spectral information from the interference patterns (5, 6, 7, 8).

As to claim 2, Jamieson discloses deriving spectral information from the Fourier transforms (see column 7-10).

As to claim 3, Jamieson discloses multiple path lengths in order to derive the spectral information (see the discussion of phase retardation, column 10 lines 45-50).

As to claim 4, Jamieson discloses constructing a spectrogram (see column 16).

As to claim 5, Jamieson discloses an image capture array (Figure 1 above, 5).

As to claim 6, Jamieson discloses a charge-coupled device (5, see also column 5).

As to claim 7 and 8, Jamieson discloses either software or a special processor to perform Fourier transforms (7, see also column 5).

As to claim 9, Jamieson discloses two sets of telescopic optics (see Figure above 1,2)

As to claim 10, Jamieson discloses space and astronomical applications (see column 1).

As to claims 11-13, Jamieson discloses adjustable optical paths in the collection devices (see Figure above, 3).

As to claims 14, see analysis above with respect to claims 1-13 above. Jamieson discloses multiple sub-aperture telescopes (see for example, Summary of Invention, column 3).

As to claims 15-19, see the analysis with respect to claims 2-13 above.

As to claims 20-23, Jamieson discloses a Fizeau interferometric configuration (see Figure 1 above).

With further regard to claims 20-23, see the analysis with respect to claims 1-13 above.

As to claims 24-31, Jamieson discloses a method of deriving spectral information from a wavefront including (see the analysis above and also columns 7-10):

collecting a plurality of select portions of a wavefront with a corresponding plurality of multi-aperture telescopes;

interfering the select portions of the wavefront at an image plane of the multi-aperture telescope to form interference patterns at the image plane; and

Fourier transforming the interference patterns to derive spectral information for the wavefront.

With further regard to claim 30, Jamieson discloses “pistoning” the adjustable optical paths at a plurality of positions to generate a plurality of interference patterns (see Figure above, mirrors 3, see also column 10).

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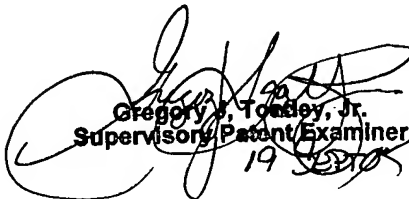
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412.

The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc pjl
09.19.2005


Gregory J. Toatley, Jr.
Supervisory Patent Examiner
19 SEP 2005